

REPLIES TO QUESTIONS ABOUT CAVALRY, ARTILLERY, AND
VARIOUS MATTERS.

*Report of the 25th February, 1868.**

In the first portion of this report entitled Cavalry, I reply to various questions addressed to me by the Minister of War, under date 13th January last.

I.—*Cavalry.*

I. Q. What in Prussia is the composition of the ration for horses of all arms of the service in hay, oats, and straw? Has the regimental ration been recently increased? and by how much?

A. *In time of Peace.*—In peace time there are three kinds of rations, viz., the full, half, and light ration. The composition of each varies according as the troops are on the line of march or in garrison. In garrison the rations are as follows:—

Oats	8·96 lbs.	} Full ration.
Hay	4·51 "	
Straw.. .. .	6·71 "	
Oats	9·62 "	} Half ration.
Hay	4·51 "	
Straw.. .. .	6·71 "	
Oats	8·8 "	} Light ration.
Hay	4·51 "	
Straw.. .. .	6·71 "	

General Officers, Staff Officers, and Adjutants,† Officers attached to the War Office, Cavalry of the Guard, the Cavalry School, Horse Artillery of the Guard, Cuirassiers, Draught Horses of the Artillery, Military Police, Intendance, and Draught Horses of the Train receive the full ration.

The Lancers of the Line receive the half ration.

All troops not named, such as Hussars and Dragoons, and officers and employés not mentioned previously, receive the light ration.

The composition of these rations is that fixed on the 1st April, 1867; previous to that date each ration was about $\frac{1}{2}$ lb. oats less. Thus, since the war of 1866, the ration for all military horses has been increased by $\frac{1}{2}$ lb. of oats.

The quantities of hay and straw remain the same.

The Minister for War can authorize the substitution of another kind of forage for the oats, or a part of it.

* We have 18 reports from Colonel Stoffel for the year 1868, some on technical questions and experimental manœuvres. We publish only 13.

† There is in each Prussian battalion a Lieutenant, whose duty it is to transmit to the battalion the orders given by the officer commanding the regiment; this latter has, in the same way, an officer, Captain, or Lieutenant, who is the channel of communication with superior authority. These officers are called "Adjutants."

In such a case, 2·2 lbs. of oats is considered as equivalent to 2·4 lbs. of barley, 2·8 lbs. of rye, 1·98 lb. of meal, 1·54 lb. of ground biscuit, 6·16 lbs. of hay, or 12·32 lbs. of straw.

During marches through the country, and in cases where the forage is supplied by the State or by contractors, the rations are composed of the following:—

Oats	11·055 lbs.	} Full ration.
Hay	..	..	..	2·310 "
Straw	..	..	..	2·365 "
Oats	10·725 "	} Half ration.
Hay	..	..	..	2·310 "
Straw	..	..	..	2·365 "
Oats	10·010 "	} Light ration.
Hay	..	..	..	2·310 "
Straw	..	..	..	2·365 "

If, however, the parishes furnish the ration, they are allowed to supply the oats by measure in place of weight.

When horses are carried on railways, the ration is increased by 3·30 lbs. of hay and 7·7 lbs. of straw; if the journey exceeds eight hours, the quantity of hay is increased to 6·6 lbs.

2. *In War time.*—In war time, there is only the full and light ration:—

Oats	12·375 lbs.	} Full ration.
Hay	..	..	..	2·310 "
Straw	..	..	..	2·365 "
Oats	10·10 "	} Light ration.
Hay	..	..	..	2·310 "
Straw	..	..	..	2·368 "

The full ration is given to all the Cavalry and Artillery horses. The only horses that receive the light ration are the Infantry officers' horses, and those of the officers and employés of the Intendance.

If circumstances render it desirable, the General commanding can alter the ration, by substituting other things for it in the proportions already given. During railway journeys, or when travelling in steamers, the ration is increased both in hay and straw.

To give an idea of the economical spirit that reigns in the Prussian Army, each squadron and battery has on its strength three or four horses, called "krümper," for which no forage is drawn; the commanding officers of batteries and squadrons are obliged to feed these horses, by taxing the forage of the others.

II. Q. Do glanders (which make such great ravages in our regiments) exist to any extent in the Prussian Army, or in the stables of the peasantry?

A. There is no list of the number of glander cases kept at the Prussian War Office in Berlin, consequently I have been unable to obtain exact information. I have been informed that about 100 horses are lost each year from glanders, or about 2 per 1,000, if the total number of horses in the Prussian Army be assumed at 50,000, which it was before 1866.

The only thing that is done to prevent the spread of

glanders is killing the horse, on the least appearance of the disease.

Veterinary Surgeons are expressly forbidden from attempting the cure of such cases.

During the six months following the war of 1866 the number of glander cases increased much, but I have been unable to obtain any official information on the subject.

Glanders is a scourge in the stables of the peasantry.

I have been informed that in one part of Eastern Prussia several landed proprietors sustained in 1855 considerable losses from this cause.

III. Q. If possible, obtain the number of horses injured, either during marches, or during the last campaign?

A. There is no return on the subject at the War Office.

All the Cavalry Officers, with whom I have spoken, have confirmed the opinion at which I arrived during the armistice of 1866 in Bohemia, that the number of injured horses was very considerable. I counted 60 in one squadron alone; all the other squadrons counted 10 to 15 on an average.

Cavalry Officers were so struck with the great number of injured horses, that a short time after the war a Commission of Cavalry Generals met at Berlin to study the subject.

One of the members of the Commission has recently informed me of the result of their deliberations, which is in the following words:—"We are decidedly convinced that the only efficacious means of preserving horses from injury during a campaign consists in the continual and intelligent supervision of the officers and non-commissioned officers. The correctness of this is manifest, since we saw in Bohemia and Austria, Cavalry regiments of the same kind, mounted on the same class of horse, and placed in identical situations, and yet the number of injured horses was three or even four times as great in some regiments as it was in others. We do not deny that the fact of horses falling out of condition during a campaign tends to increase the liability to injury. And this reason has induced us to increase the ration of oats by $\frac{1}{2}$ lb. But horses will fall off in the field, no matter what precautions are taken, the saddles do not then fit properly over the loins and withers, and the liability to injury consequently is much increased, and the injuries will be the more numerous, as the supervision of the officers and non-commissioned officers is careless."

The only method proposed to guard against the saddles not fitting, is that each squadron should have a certain number of spare blankets to cut up. When, from any cause, a saddle does not fit exactly, the soldier should make it fit by placing under it one or more pieces of blanket, and sewing them on if requisite. A special instruction on this subject is given to the soldiers.

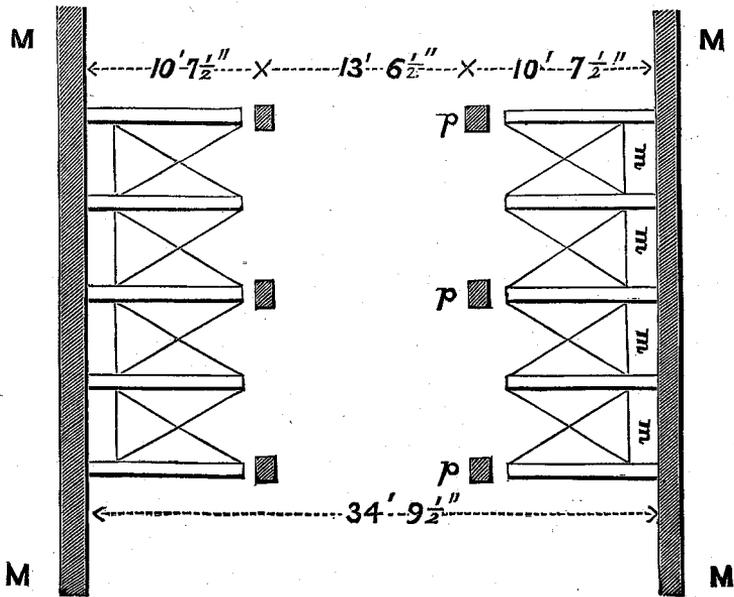
IV. Q. What is the average length of service of a troop horse?

A. The average period is 9 years, and I have tried to find

out if this has always been the case, and I am informed that no sensible alteration has taken place for 50 years. Prussia is far from having made as much progress as we have in improving her breed of horses. The greater number of Prussian officers, who have visited France of recent years, often express their admiration of the quality of our cavalry horses.

V. Q. How are troop horses accommodated? What space is allowed for each horse? What means of ventilation are adopted in stables? What sanitary measures are used to keep troop horses in good health?

A. In Prussia cavalry barracks have been built at various dates, and the stables have not all the dimensions at present approved of. The accompanying sketch shows the most recent construction and the regulated dimensions.



MM... .. Walls.
 pp Posts.
 mm... .. Mangers.

Length of each stall, including the manger	...	...	...	...	10' 7 1/2"
Width of each stall if bails are used	...	...	...	...	5' 1 3/4"
Width of each stall if (exceptionally) the horses are separated by partitions	...	...	...	...	5' 3"
Width of centre passage	...	...	...	...	13' 6 1/2"
Width of stable in the clear	...	...	...	...	34' 9 1/2"
Height of the stable	...	...	...	...	14' 8"
The height never to be less than	...	...	...	...	12' 4 1/2"

The stable of each squadron has four doors to facilitate cleaning, and also that the horses may be rapidly got out in case of fire. In all the stables I have seen the means of ventilation are similar to those used in France. Common openings are used which are made in the long sides of the

stable, close under the tiling, they are from $9\frac{1}{2}$ to 10 inches square.

So far as relates to sanitary measures, the veterinary surgeons with whom I have spoken have told me nothing of importance. They have recourse to methods similar to those used in France. I have observed that they isolate with great care the sick horses, from those fit for duty, never leaving them in the same part of the stable, as is sometimes done in our cavalry regiments.

II.—ARTILLERY.

Report upon the Competitive Trials made with the Prussian and Austrian Field Gun.

I attach to this report a German report of much interest upon the competitive trials made at Berlin during the last year with the Austrian and Prussian field guns. Guns taken from the Austrians during the last war have been used for these trials, which have been most carefully made. I do not give a resumé of this report, it is requisite that it should be translated. The superiority of the Prussian gun over the Austrian gun has been completely established, a similar superiority, unfortunately, exists over our gun. I have been unable to procure the 19 tables which are attached to the German report, but fortunately they may be dispensed with; the measures are in Prussian feet.

Bronze v. Steel.

Should cast steel be employed for guns of the size of 4-prs. and 6-prs., or should the employment of bronze be resumed?

This question divides more than ever the officers of the Prussian artillery, and towards the end of January almost all the artillery officers present in Berlin were ordered by the General Commanding-in-Chief the Artillery to attend to hear a description of the manufacture of steel guns at Essen, given by a captain. This officer having been sent for several months to study the manufacture of steel, in the great manufactory of M. Krupp.

I have already pointed out in one of my reports in 1866 why this important subject as to the employment of bronze or steel produced much excitement after the Austrian war, in Prussia. I was then allowed to see 11 steel guns which had burst, six before the war, with proof charges, and five during the war. All except one had burst at the breech, the single exception being a gun which had burst in front of the trunnion at the battle of Skalitz. In this case the officers imagined that the gun had been previously struck by a shot. The truth of this supposition can hardly be determined by a cursory inspection. From whatever cause they may have arisen, these five accidents occurring during the war, caused much discussion amongst the artillery officers.

Towards the end of 1866, Prince Charles, the Chief of the Artillery, held several meetings of the principle Generals of this arm of the service, to examine into the subject. The discussions were very keen. The partisans of steel pointed out that all the guns having burst at the breech was no reason for concluding that steel was not the best material. That it was necessary to improve the breech-closing mechanism by giving it greater strength, and rounding off certain right angled arises. They also added that Prussia, having gone to very great expense to complete its matériel in steel, it was foolish to return to bronze, until these improvements had been tried.

The opponents of steel replied that it was quite impossible to find out from the external appearance of the steel intended for a gun if it were sufficiently homogeneous, and had consequently the requisite strength; that it was absolutely impossible to ignore the effect produced on the morale of the artillery by the accidents which had happened during the war. Even assuming that the gun which had burst in front of the trunnions had been previously struck by a shot, this gave only another reason for ceasing to employ steel, that the cost of steel was so great, that the estimates were much increased, &c. They further expressed their doubts of the success of steel in the future, as follows: "Is it not likely that after the lapse of time, after a number of rounds have been fired, or after long marches, the steel will undergo a change similar to that which takes place in iron when subjected to repeated vibrations, either by being struck by a hammer, or otherwise? Will not the particles get disintegrated and the steel become brittle?"

The nature of the discussions that have taken place here among the Chiefs of the Artillery, can be best appreciated by bearing in mind that the numbers of the opponents of steel have been greatly increased by the subordinate officers who took part in the war of 1866. They state their opinion on this subject very expressively, by saying to the disputing Generals, "Give us wooden guns if you like, provided only they do not burst."

The opponents of steel as a material for making guns, say very forcibly that M. Krupp, by the interest he possesses, especially with the King, has succeeded in preventing any artillery officers from overseeing his manufactory; on account of the great outcry made after the war on this subject, M. Krupp has been compelled to consent to receive the officer previously referred to.

The storm produced by these disputes has been much increased since the meeting held during the last days of January, at which meeting the officer sent to Essen, made a report unfavourable to the employment of steel. Judging from all the facts that have come to my knowledge, I am induced to believe that if Prussia had no field artillery, and if she had to create one, she would not hesitate to adopt bronze.

Foundry at Spandau.

The foundry at Spandau has always continued to make bronze guns for the navy and for fortifications. It has recently cast 8 12-prs., with which experiments have been made, to ascertain if there was any truth in the complaint made against the foundry, that it cast guns at too low a temperature.

Four of these guns have been cast at a temperature of 1,200 degrees Fahrenheit, four at a temperature of 1,400 degrees, and it is proposed to ascertain if there be any difference between the two. Each group of guns has fired 1,500 rounds, and as yet, without any difference being detected. I will report the results which may come to my knowledge.

It does not, however, appear to me that these experiments have any real value, for such slight differences of temperature can have no influence upon the material; the only important thing being that the casting must be homogeneous and of sufficient density.

III.—MISCELLANEOUS.

Employment of Officers according to their Aptitude for Service, Independently of their Rank.

While referring to the foundry at Spandau, I must not omit to point out a characteristic of the Prussian Army.

This foundry is a large establishment, where all the artillery matériel for the army and navy is made. Now, what would be the astonishment of French officers to learn that such an establishment is directed by one captain, assisted by two lieutenants! The captain-director of the foundry at Spandau is removable only by the Minister, and for several years he has discharged his duties to the satisfaction of all. A similar custom is very common in Prussia. I could name several other establishments, and positions of great responsibility under the War Office, which are directed or filled by officers of very inferior rank.

They never allow themselves to be fettered as in France (at least in appointments other than those of the regular army) by a kind of strained connection between the rank and functions of an officer; but on the contrary, when an officer, no matter what his rank, shows any special aptitude, they employ him in the line for which he shows a fitness. The director of the foundry at Spandau is an example of this; he is only a captain, we in France would place at the head of such an establishment a colonel, aided by six or seven officers. The captain of the foundry at Spandau will in all probability be continued in that employment when he obtains higher rank.

Anxiety to Improve the Needle-Gun.

Mr. Norris, an American, has just left Berlin after a short stay. He is a traveller for a mercantile house in the United States. I do not think that much credence can be given to all

that he says of his visit to Paris, his interview with the Emperor, and the orders his Majesty gave him. He has proposed to the Prussian Government a scheme for improving the needle-gun (at a cost of 6s. 8d. per rifle), by which the mechanism would be simplified, and the range increased.

His proposal has not been accepted; but it is not the less true, that Prussia has the greatest wish to improve the arms of her infantry.

Men who understand the subject recognize the superiority of the Chassepôt rifle on account of its greater range, and they would be glad to make an equivalent improvement in their arms. It is considered in Prussia, however, that the needle-gun is more rough and ready, that is to say, less liable to break than our rifle. I have been much surprised at hearing Prussian soldiers say exactly what I have heard French soldiers say during the campaign of Italy. "At close quarters we are not so foolish as to use the bayonet, for at the very moment we make a thrust we expose ourselves to be killed from behind. We use in preference the butt, clubbing the rifle, and thus preventing the enemy from coming near." The Prussians think that under such circumstances their rifle would be better than ours, being heavier, and not so fragile.

Instruction of Recruits.

Last week I accompanied the King of Prussia to Potsdam, where His Majesty each year inspects the recruits of one company of each of the three battalions of the 1st Regiment of Foot Guards, of which he is the chief. Each year, at this period, or more exactly, twelve weeks after the fresh annual contingent joins, the commanding officers of companies and squadrons bring before the commanding officers of their regiments the recruits they have instructed. In the Prussian army this preliminary instruction of recruits is invariably given by the company or squadron, while in the French army it is given by the regiment, under the orders of the captain-instructor. The method of instruction by company or squadron offers so many, and such undeniable advantages, that I can only attribute our adherence to the regimental system, as a consequence of long-established routine. But this, however, is a personal opinion, upon which I do not insist.

The conscripts of 1867 having been enrolled the 1st November, those of the 1st Regiment of Foot Guards had a little more than three months' instruction when they were inspected by the King last week. I could only admire the progress obtained in so short a time. Recruits joining the French Army could not after the same period have been classed with them. The way in which they handled their arms, and performed company and light infantry movements, left nothing to be desired. These men had already begun rifle shooting.

The biggest men in all Prussia are chosen for the 1st Regi-

ment of Foot Guards, of which the King is chief. Big men being generally less handy than men of an average height, I was the more surprised at the amount of instruction of the recruits of this regiment. Subsequently I visited other regiments of infantry, and cavalry, when the colonels inspected the recruits; amongst all, the instruction was in a very forward state. These results are due to the great zeal displayed by the officers and non-commissioned officers of the companies and squadrons. "They slave like niggers!" the Crown Prince said, when I expressed to him my astonishment at what I saw at Potsdam.

WHAT CONSTITUTES THE SUPERIORITY OF THE PRUSSIAN ARMY;
AND ON DISARMAMENT.

Report of the 23rd April, 1868.

Amidst the studies to which an officer holding my position gives himself up, one question unceasingly presents itself to his mind.

If war were to break out, suddenly, between Prussia, and France, would the Prussian be superior, to the French army, either by its organization, its instruction, its military spirit, or its arms? If it does possess the elements of superiority, what are they? Lastly, what steps should we take in order that we may no longer remain in a state of inferiority?

It will be seen that I omit, in enunciating this problem, those elements which cannot be estimated beforehand, such as the talents of the Commander-in-Chief, undoubtedly the most important. The effective forces both nations could put into the field, the resources of all kinds possessed by both countries, &c., &c. For the sake of argument, I will suppose that so far as these things are concerned, both nations are on a par. Even granting this, the question I wish to discuss is still most complicated, for it embraces all the details of the constitution of the two armies. My desire is to reduce the subject to its simplest shape, and yet to avoid laying it down in an absolute form, such as the following—Which of the two armies is the most perfect? Generally, such questions are only put forward by superficial persons, who are unable to understand that a reply is impossible, so numerous are the points of comparison, that many must escape observation. I will therefore limit myself to pointing out what in case of war would, classed under the heads above enumerated, give the Prussian army a real superiority. One army may be superior to another in two distinct ways.

1st. *Morally*.—By the character of the nation, its temperament, its traditions, its history, and its general instruction.

2nd. *Materially*.—By its organization the amount of military instruction, its officers, non-commissioned officers and men

possess, by its war materiel, armament, and equipment. I need not speak of the French Army under either of these two heads. The qualities which distinguish it are well known.

In Prussia, all enlightened military men acknowledge that our soldiers excel all others in greater individuality, in a keener intelligence, and in an incomparable enthusiasm. They consider carelessness and French gaiety as valuable qualities in war, and they declare that our soldiers are more ingenious, and better marchers.* They also admit the advantage which the French Army obtains from the longer period of service with the colours, and the presence of old soldiers in the ranks. They envy above all things the composition of our body of non-commissioned officers.†

I need not speak of the armament of the infantry. I have already pointed out how preoccupied they are in Prussia with the superiority of our new rifle, and the attempts they are making to improve the needle-gun.

I proceed to make observations on the Prussian Army.

Elements of Moral Superiority.

Under the head of moral superiority, two things have given the Prussian Army an undeniable advantage over all European Armies.

- 1st. The principle of compulsory military service.
- 2nd. The general instruction diffused through all classes of society.

Compulsory Service.

It is needless to point out again (I have already done so in my reports of 1866) the moral superiority which the presence in the ranks of all classes of society, and the respect that the army and landwehr taken together represent the entire nation under arms, confer on the Prussian Army. Whatever faults may be found with Prussian military organization, it is impossible not to admire a people, who, having recognized the truth, that for nations, as for individuals, the first necessity is existence, have determined that the army should be the chief, the most honoured, of all its institutions, that all healthy citizens should share the danger and the honour of defending the country, increasing its power, and that they

* Prussia is generally a level country; every one knows that the dwellers in plains are not such good marchers as those who live in a hilly country. This difference has been shown in the war of 1866. The Army Corps from Eastern Prussia, Pomerania, and Brandenburg, suffered much more from the marches, through the defiles of Bohemia, than the corps from Silesia, for example.

† The Prussian Army, indeed, numbers in its ranks some old non-commissioned officers, but the number is very limited, on account of compulsory service, which necessitates each year the whole contingent entering the ranks.

should be respected and esteemed before all others.* To speak only of the officers, what an excellent example they give to other classes! In Prussia those privileged by birth or fortune do not, as elsewhere, spend their lives in deplorable idleness. Far from it, men of the richest families, the most illustrious names, serve as officers, enduring the labours and exigencies of military life, instructing by example. When such a spectacle is seen, not only does one feel respect for this rough but grave people, but dread also, for the power such institutions give its army.

Compulsory Education.

The principle of compulsory education has been adopted in Prussia for more than 30 years; it may even be said since the time of Frederick the Great, consequently the Prussian nation is the most enlightened in Europe, in the sense that education is diffused among all classes of society.

The Polish provinces, alone continue in a state of comparative ignorance. In France, even where everything connected with foreign countries is completely ignored, the amount of intellectual labour, of which North Germany is the theatre, is acknowledged. Elementary schools abound, and while in France the *foci* of intellectual life and activity are confined to some large cities, North Germany is covered with such centres of learning; to count them would be but to enumerate all the cities of the third, even the fourth class.

I will not dwell too long on the advantages which the army derives from a high standard of education being diffused throughout the nation. But is not it extraordinary that persons in France, even those considered enlightened men, should refuse to acknowledge them? Is it possible that they wish to deny that education and knowledge develop the faculties of men, and ennoble their ideas, by giving them a higher estimate of their own dignity? These people say artlessly that an army of ignorant, but warlike soldiers, would defeat an army of well-educated men, wanting experience in war. They do not understand that to weigh such questions fairly, all other things, except those under discussion should be considered as identical, and if an attempt is made to convince them of their error, it can only be done by a *reductio ad absurdum*. Now, I ask where is the general who would hesitate a moment if, other things, such as physical strength, discipline, number of years' service, &c., were identical, he had to choose between commanding an army of 100,000 men, composed entirely of pupils of the Ecole Polytechnique or Saint Cyr, and a similar army, composed of peasants from Limousin and Berry? Why, if he thought only of the

* I have already said that in Prussia all the honours, all the advantages, all the favours, are for the army, or for those who have served in it. He who for any cause has not been a soldier receives no employment. Both at home and abroad he is an object of contempt to his fellow citizens.

advantages arising from the rapid instruction of recruits, he would not hesitate for a moment. But there is much more than this, for in moral force the former army would exceed the latter tenfold. In support of this I will quote what Prussian officers and non-commissioned officers repeatedly said to me in Bohemia in 1866. Proud of their success, they attributed it in great measure to the intellectual superiority of the men, and they said, "When after the first battles our soldiers came in contact with the Austrian prisoners, and on speaking to them found that many hardly knew their right hand, from their left, there was not one who did not look on himself as a god, in comparison with such ignorant beings, and this conviction increased our forces in a tenfold degree."

Feeling of Duty.

I cannot omit to mention one quality which characterizes the whole Prussian nation, and which helps to augment the moral value of the army,—*it is the feeling of duty*. It exists to such an extent amongst all classes in the country, that the more the nation is studied the more one is astonished at it. This not being the place to examine into the causes of this trait of character, I limit myself to referring to it.

The most remarkable proof of this attachment to duty is supplied by the Government employés of every grade, paid with a parsimony truly surprising, encumbered often with families. These employés labour all day long, with an indefatigable energy, without any complaint, and without any apparent ambition for a less laborious lot. M. Bismarck said to me the other day, "We are very careful not to interfere with this hard-working and ill-paid bureaucracy, which performs the best part of our work, and forms one of our chief sources of strength."

Material Superiority.—Special Services permanently organized.

One element of material superiority which Prussia possesses, is the facility which its military organization affords for forming certain special services, such as companies of carriers of the wounded, railway corps, telegraph corps, &c. I have already pointed out in my reports in 1866 all the details connected with these services. I have indicated their duties, and the composition of their *personnel* and *matériel*.

Here I will confine myself, to stating that, thanks to the institution of the Landwehr, these services can be organized without diminishing the effective strength of the army by one man, and that they are always formed in time of peace, as a permanent institution.

One word with reference to the companies of bearers of the wounded. We do not use them in France, but I believe it is proposed to select at the beginning of a campaign four or five men in each company of infantry, for the duty of removing

the wounded. This is something; but it must be allowed that companies formed beforehand, with well-defined duties, and educated for these duties, must render better service. If the formation of companies of carriers of the wounded, was only for a philanthropic object, it might be neglected; but their utility in action is undeniable. What have we seen on the Italian fields of battle? The moment a man was wounded, three or four of his comrades fell out, under pretext of removing him. Would not this dangerous irregularity be diminished, if the soldier knew that a special service, organized beforehand, and competent to aid the wounded on the field of battle, existed? In Prussia these companies are formed from men of the Landwehr whose character, offers a sufficient guarantee of their morality and good conduct. It is to be feared that the four or five men selected from each of our companies do not afford the same guarantee.

Infantry Fire.

If our new rifle (pattern 1866) possesses all the good qualities claimed for it, not only has France no cause for envy, but she is actually superior to Prussia.

It must, however, be confessed that when the temperament of the two nations is compared, there can be no doubt that the fire of the Prussian infantry, other things being equal, will be more formidable, than that of the French. The Prussian soldier is less excitable than ours, and fires with greater coolness and more precision. This opinion is widely disseminated in the Prussian army; I have heard it often expressed. We should pay very great attention to rifle practice. In Prussia it is carefully studied. Each battalion receives 120 cartridges per year, per man, whatever may be the length of his service, in addition to 4,000 cartridges for general drills. In addition to which, the artillery gives to each battalion that returns one-third of the weight of bullets fired, a certain additional number of cartridges, which are fired by the most skilful marksmen; from which it follows that each soldier fires nearly 130 rounds annually. All the regimental officers take part in the practical instruction, and are borne on the rifle shooting register.

The Colonels and Generals are present at the examinations at the end of the year, to mark the importance attached to this drill. In Prussia they have long ago recognized that the more the weapon of the infantry soldier is improved, the greater the necessity that exists for instructing him in its use.

Artillery Fire.

If war breaks out, we should clearly understand that the Prussian artillery *matériel* is very superior to ours. In truth, our carriages are lighter than the Prussian carriages, our field guns are more mobile, but the two Prussian guns (the 4 and 6-pounder) are much more accurate, and have a greater range.

The German report, which I enclosed with my report of the 26th February last, leaves no doubt whatever on this subject. In addition to which the Prussian guns can fire more rapidly than ours. How does it happen that a great number of our artillery officers do not consider rapidity of fire an advantage, and declare that our guns fire sufficiently fast? Is it possible that in war there are no circumstances when it may be desirable to hurl at troops, or artillery, in a given time a fourth or fifth more projectiles?

The accuracy of the Prussian Artillery is a point of such importance that I shall make it the subject of a special report. So far as the *personnel* of the Prussian Artillery is concerned, its military education is inferior to ours, chiefly because the Prussian gunners serve only two years with the active army. So far as the officers are concerned, while they (the reverse of what we see in France) are less thought of, than those of the other arms, their military education is equal in every point, to that of French Artillery officers.

Austrian and Prussian Artillery.

This is the place to speak (as a digression) of an error commonly received since the war of 1866. It is usually stated that the Austrian Artillery was superior to the Prussian. This opinion comes from an Austrian source, and should therefore be distrusted. The error is manifest to those who know the facts of the Bohemian campaign and wish to tell the truth. If it were only said that during the war of 1866 the Austrian Artillery caused greater loss than the Prussian, it would be quite true. The reason of this should be explained.

1. In the spring of 1866 Prussia had not yet completely re-armed her Artillery with steel guns (4 and 6-prs.) She was compelled therefore to begin the war with brass smooth-bore 12-prs. These guns were of no use, for on no occasion could they be brought into action, under the fire, of the long range rifle guns of the Austrian Artillery.

All the Prussian officers of Artillery have repeatedly assured me that these guns, were nothing but an incumbrance, from the first to the last day of the campaign.

2. From strategic causes, the offensive, in almost every action was taken by the Prussians. At Nachod, at Skalitz, at Trautenau, their divisions, debouching from defiles, found the Austrians already in position; consequently the Prussian Artillery had to find out proper positions for their guns on an unknown field of battle.

The battle of Königgratz offers a striking example. The Austrian Artillery covered by epaulments, occupied beforehand all the commanding positions extending from Maslowed to Prim, whilst the Prussian Artillery, which attacked, had to overcome the difficulties consequent on a rapid selection of favourable positions upon a commanded field of battle.

Thus the Prussian Artillery during the Bohemian war,

could only use two-thirds of its guns, and it has had to play, what in all battles is the most difficult part. These are the reasons why the Austrian Artillery produced greater effects than the Prussian Artillery. But, I repeat, it is false to pretend that the former is superior. The report I furnished on on the 20th February last, shows that the Prussian *matériel* is the best. The Prussian officers are better trained than the Austrians; I do not know that there is much difference in the instruction of the men. My object in making this digression is to remove an error which is each day becoming more widely spread. The fact that at Königgrätz a portion of the Austrian artillery showed heroic devotion, in endeavouring to cover the retreat of the army, has contributed much to produce this erroneous impression.

To recapitulate; the various elements of superiority that the Prussian army possesses are:—

The strong and healthy spirit, that compulsory service spreads in the army, which includes in its ranks all the manly portion, all the intelligence, all the living force of the nation, and which consequently looks on itself as the nation in arms.

Thanks to the extensive general education, disseminated through all classes of society, the intellectual level of the army is much higher than in any other country. Amongst all ranks the feeling of duty is much greater than in France. Special services (companies of bearers of the wounded, railway and telegraph corps) are permanently organized, with the greatest care, and without trenching on the number of combatants.

The fire of the infantry is more formidable, thanks partly to the peculiar temperament of the North Germans, partly to the great care bestowed on rifle practice. The *matériel* of the field artillery is much superior to ours, both as regards accuracy, range, and rapidity of fire.

Superiority of the Prussian Staff.

But of all the elements of superiority which Prussia, in case war broke out, would possess, the greatest and the most undeniable, will be that she will obtain, from the composition of her corps of staff officers.

It should be loudly proclaimed as an astounding truth, that the Prussian staff is the best in Europe; ours cannot be compared with it. I have never ceased to insist upon this in my first reports of 1866, and to express my opinion that it was a matter of urgent necessity, to take some steps to raise our staff corps to the level of the Prussian staff. Firmly persuaded that in an approaching war the North German army would, from the composition of its staff, obtain important advantages; and that we would, perhaps, have serious cause to regret our inferiority, I venture again to draw attention to this subject, which in my opinion is the most important of all. I will not conceal that my conviction is so strong that I raise

a warning voice, *caveant consules*. Were I to do otherwise, I should fail in carrying out my duty.

I propose, then, to point out how the Prussian Staff is constituted, and the principles on which it is based; the reasons of its superiority over the French will then be sufficiently apparent.

When I reached Prague in 1866 I first came in contact with staff officers. I was at once struck with their merits. All, without exception, possessed remarkable intelligence, and the most extended military knowledge. In proportion as I knew more of these officers my astonishment increased; in all ranks I found thoughtful, well-educated, and judicious men. It was therefore very interesting to investigate the causes which produced such results; and I set to work to study the organization of the Prussian Staff Corps.

Composition of the Prussian Staff.

In Prussia neither rule, nor regulation, as to the composition of the Staff exists. They have started from a well-founded principle, that of all the officers in the army, Staff Officers should be the most intelligent, and the best educated. They say, it is a matter of but small importance if an officer commanding a company or squadron has not a very extensive military education; it is far otherwise with a Staff Officer. His multifarious duties, the influence that his reports of all kinds, may exercise on the decisions of Generals,—more especially now, that armies are so large, and the theatre of war so extended, renders it absolutely requisite, that he should have an extended knowledge, and a special fitness for his duties.*

Admit the principle that of all officers in the army, Staff Officers should be the ablest, what steps should be taken to apply it?

They draw these officers from the entire army, no matter, to what arm they belong, and while solid advantages in the way of promotion are offered as rewards to young men, the authorities reserve to themselves the power of at any moment removing from the Staff those officers who do not show zeal and aptitude for special duties.

The consequence of these arrangements are, that only young, ambitious, intelligent, and laborious, officers seek employment on the Staff. Ambitious, because they seek rapid promotion; intelligent and laborious, because they know that if they do not give satisfaction, in the studies required from them they will expose themselves to be sent back for service in the arm to which they belong. To understand clearly the kind of advantage that is given to Staff Officers, it is requisite to remember, that there are no rules for promotion, that officers are promoted only by seniority. In practice the

* Frederick, in his memoirs, insists much on the necessity of having Staff Officers well taught, and intelligent. He attributes the loss of Malplaquet and Leuthen to faults on the part of Staff Officers.

King reserves to himself the right of selecting for a superior grade any officer he pleases; but he exercises this right very rarely. And as the number of officers so promoted, does not exceed one-thirtieth to one-fortieth of the whole, it may be said, I repeat, that promotion takes place only by seniority. Officers admitted to the staff gain, on an average, from seven to eight years over other officers.

Method of obtaining Officers for the Staff.

I will now describe in detail, the method by which the Staff Corps is formed in Prussia.

The Prussian Army, at present the army of the North German Confederation, is formed, as is known, of permanent Army Corps, and, has also a Permanent Chief of the Staff, General Moltke. He is in addition the almost absolute Chief of the Staff Corps considered as a separate body. He selects the officers for admission and employment; he nominates them for promotion from one grade to another (the Minister merely ratifying his nomination.) Finally, it is he who details them, for the various duties of the army. His power, so to speak, is discretionary, and such a state of affairs, hardly to be understood in France, appears perfectly natural here, as much on account of the integrity and recognized merits of General Moltke, as of the formation of the army into permanent corps.

Every lieutenant, no matter what branch of the service he belongs to, has the power, after three years spent in that rank with his regiment, to offer himself as a candidate for the war academy (Krieg's Akademie) at Berlin. This is a school for higher military education, unequalled in Europe, as much by the merits of its professors as for the nature and extent of its studies. It is by no means a special school for the Staff; its aim is far larger. It aims at familiarising selected well-disposed officers, with the higher parts of the art of war, giving them an education which may serve as the basis of future intellectual development, and which may render them fit for Staff duties and the superior command of troops.*

I attach to this report a syllabus of the instruction given at this school, which has been recently published, and which gives a complete programme of the studies. I will only say that it includes tactics (theoretical and practical), military history, armaments, fortifications (both field and permanent), history of sieges, the theory and practice of plan drawing, the duties of the staff, military geography and administration; and as subordinate sciences, mathematics, geology, universal history, literature, the elements of philosophy, general geography, chemistry, experimental physics, and finally, French, English,

* At present almost all the Generals of the Prussian Army are old pupils of the war school; three-fourths of them have served on the Staff. The proportion goes on increasing. The Polytechnic School, those of Metz and St. Cyr, are but special schools, compared with the immense extent of ground covered by the War Academy.

and Russian. At the conclusion of a difficult examination, at which about 120 lieutenants present themselves each year (I take the average number), about 40 enter the school, all with the wish more, or less avowed, of seeking the career of Staff Officers. The studies last three years from the 1st October. The course during the first year lasts for nine months, after which these officers return to their regiments for three months, namely, from 1st July to 1st October, to take part in the autumn manoeuvres. The second year is the same. In the third year the pupils receive more particularly the instruction requisite for staff officers. The tenth month is spent in studying during a journey termed "the staff journey," under the guidance of the professors, and usually in an undulating portion of the country, reconnaissance, studies of ground, military sketches, encampments of troops, and the solution of military problems.

First Selection made amongst the Pupils of the Academy.

Three years having elapsed: the lieutenants, without a final examination, and without any class lists, are sent back to their regiments. The professors, and the director of the academy name to General Moltke those who have shown themselves the ablest, and the most studious. Twelve of these are selected, care being taken that amongst this number should be officers of the different arms of the service (infantry, cavalry, and artillery), and during the course of the year following their departure from the school, they are attached for six or nine months each to a regiment, not belonging to his own branch of the service. Those who during this stage display the greatest zeal, and the requisite aptitude, are selected by General Moltke, who summons them to Berlin, to the grand head-quarters for duty (as they say here). They continue, however, to wear the uniform of, and belong to their regiments. The time that these officers spend at the grand head-quarters (a year or a year and a half) exercises an important influence over their future career. They are then at a higher special Staff School, of which General Moltke himself is the head. He, while teaching, learns to know and appreciate them; he carefully familiarises them successively with the duties of each of the subdivisions, composing the grand head-quarters. He lectures to them, gives them memoirs to draw up, upon subjects selected by himself, reads and criticises their productions before the whole of the officers, the names of the authors being concealed, as much to avoid hurting the feelings of the less competent, as to avoid exciting the vanity of the more able.

Second Selection.

After the stay of these officers at the grand head-quarters, General Moltke makes his selection, but the officers are ignorant of it. He might give at once the position of staff officer to those whom he thought best fitted for the service, but to avoid

wounding the feelings of the others, he sends back all the officers without distinction, to their regiments. The inferior men are left there, and remain in their own arm of the service, preserving, only the remembrance of the instruction they have undergone. The others are promoted after some months to the rank of Captain, and named Staff Officers, wearing the staff uniform.

Promotion by selection to the rank of Captain.

General Moltke always, as Permanent Chief of the Staff of the Army, divides these Captains according to the requirements of the service. He keeps some at the grand head-quarters, employing them, on those duties for which they have shown a special aptitude. He sends the largest number to the Staff of the Army Corps and Divisions, where they have to learn their special duties; but great care is taken not to burden these officers, with clerks' duties, which only waste their time. These duties are performed by non-commissioned officers, and soldiers only, under the surveillance of the officers, who can thus (the reverse of what we see in France) devote their time, to those subjects which are more useful and worthy of them.

At the end of two years or two and a-half years, these Captains cease to perform the duties of Staff Officers; and to avoid putting them in contact with their former comrades, over whose heads they have gone, they are posted to regiments other than those in which they have served, as Lieutenants; they each, according to his arm of the service, perform the duty of Company, Battery, or Squadron Commandant.

Promotion by selection to the rank of Major.

After an average of two years' duty with their regiments, they are promoted by selection, to the rank of Major, and resume the status and uniform of Staff Officers. General Moltke employs them as such, according to the wants of the service, either on the Staff of the Army Corps, or at Berlin, on the head-quarter Staff.

I draw attention to the continued system of trials and selections to which the Staff Corps is subjected. If it is remarked at any time, that amongst the Captains employed, as I have already said, either on the head-quarter Staff or on the Division or Army Corps Staff, the zeal of any slackens, or that his merit has been too highly estimated, he is not selected as Major, but is left to do duty in that branch of the service to which he belongs, without being ever again employed as a Staff Officer.

Before going further, I would draw attention to the fact that the great advantage Staff Officers have, is the rapid step from Captain to Major; they gain in this grade 6 to 7 years, and as they already had gained 1 year in their promotion to Captain, or they gain 7 to 8 years altogether.*

Staff and Regimental Duty alternately.

The rank of Major once obtained, Staff Officers have, as regards promotion, no further advantages. But it is well worthy of remark that at every stage of their progress, they are invariably obliged to leave the Staff, and serve in a regiment of their arm of the service, for at least one year, before obtaining promotion. Thus one year at least, before the time a Staff Major is promoted to the rank of Lieutenant-Colonel, he receives the actual command of a battalion, several squadrons, or several batteries. In the same way the Lieutenant-Colonel is placed at the head of a regiment of infantry, cavalry, or artillery, for one year before his promotion to the rank of Colonel. These officers thus retain the habits requisite for riding, and commanding troops.

Selected Officers obtained from the Entire Army for the Staff.

But the exertions made to obtain a good body of Staff Officers do not stop here. The officers to whom we have hitherto referred have all a common origin; they are the 12 selected, from the 40 who have been admitted to the war academy, out of the 120 who originally competed. Now, it is evident that amongst the large number of Lieutenants, in the army having three years service, there must be some excellent officers who, for some reason or another, have not tried to enter the war academy and even amongst the 180 unsuccessful candidates there may be some very able men. Not wishing to lose any chance, for obtaining good officers for the Staff, the following steps are taken:—

The Colonels of the army are called on, to name to the Generals, and the latter to General Moltke, the officers of their regiments who are most remarkable for breadth of information, taste, or fitness for their profession, and it must be remarked that it is requisite to moderate rather than excite the zeal of Commanding Officers, who usually desire to push their officers forward, and procure rapid promotion for them.

General Moltke sends to the officers so selected, questions to study and problems to solve, and if he thinks them qualified he orders them to Berlin, to the grand head-quarters. If they there show that they have real ability, General Moltke appoints them as Staff Officers, and employs them accordingly.

If such be not the case they are sent back to their regiments, where, doubtless, they are for some time exposed to the "chaff" of their comrades.

I have already said that in the Staff of Army Corps and Divisions, the clerical labour, a useless work for officers, is performed by non-commissioned officers and soldiers, and thus

* As might be expected these Officers are objects of envy to the rest of the Army. But such feelings are limited, because the real merit of the Staff, is appreciated, as also the incessant labour Staff Officers undergo.

the officers are allowed to employ their time in a more useful manner. Practically, the Generals give them military questions (not in the actual routine of duty) to study, and once a year the Chief of the Staff of each Army Corps takes a journey, termed the "Staff journey," with all the Staff Officers, to improve or extend their information.

The officers of the Head-Quarter Staff at Berlin make a similar journey annually, under the personal direction of General Moltke, sometimes in one province, sometimes in another; this journey lasts a fortnight or three weeks.

Causes of the Superiority of the Prussian Staff.

The reasons of the superiority of the Prussian Staff can be easily understood from what I have just described.

1. The selection is made throughout the entire army without distinction of corps, all Lieutenants being asked to compete.

2. Only ambitious, intelligent, and hard-working officers come forward; ambitious because they seek rapid promotion, intelligent and laborious because they know that they must submit during all their career to a continual system of selection and labour.

Thus starting from a correct idea, that Staff Officers should be the best in the army, and using the simple means of giving these officers more rapid promotion than others, Prussia has formed the best instructed body of Staff Officers in Europe. The more I compare them with ours the more am I struck with their superiority. Not that our Staff Corps does not embrace officers as good as the best in Prussia, but there are no mediocrities amongst the latter, and how many whose instruction is very insufficient are not included in the ranks of our Staff? How many are there with us who do not know how to read a map, or who have no knowledge of the manœuvres of the various arms of the service, who have never studied a modern campaign, and who (as was shown in the war of 1859) do not know how to form a suitable camp for a brigade of infantry, or a regiment of cavalry? There is nothing like that, in this country, such officers would not be admitted on the Staff, or rather, they would be removed, the moment their ignorance was known.

It is not my place to point out the means requisite to

* It may be thought that I exaggerate, and it may be said, perhaps, that so far as the selection of proper encampments for troops, the Prussian officers who have not seen war cannot be better than ours. But can any one deny the advantages of the Staff journeys made either by the pupils of the War Academy, by the Staff Officers of Army Corps, or by those of the Head-Quarter Staff, under the direction of General Moltke, journeys when all kinds of questions as to the knowledge of ground, the encampment of troops, fortifications, &c., are proposed and solved,

improve our Staff Corps. But I look in vain for any principle on which it is based. Do we admit, as in Prussia, that Staff Officers should be the élite of the army? Certainly not. With us, the only test for Staff Officers is the chance one, of a single examination passed at 21 years of age, since we select the largest number, from those who are highest on the class list leaving St. Cyr.

Frankly, have we the smallest guarantee of sound judgment, a marked inclination for labour, or a special fitness for a career which, according to a Prussian maxim, does not admit of mediocrity? Nevertheless, these young men are, and will remain Staff Officers until they retire from the army. If, after they leave the military schools, they show no taste for a military life, no aptitude for their special duties, and give themselves up to idleness and live in ignorance, what matters it? We will trust in war to these incapable, or negligent officers, duties which require the greatest activity, the greatest judgment, and the most extensive knowledge. This is how we act, with an entire absence of principal. How differently these important duties are regarded in Prussia.

I repeat again, they will excuse sluggishness or mediocrity in any officer except a Staff Officer. To speak only of physical fitness, does any one think that he will find here, as in France, officers unfit to ride a mile at full speed? I am well acquainted with the Prussian Staff, and I can affirm that General Moltke would at once remove from the Staff any officer unfit for duty on horse back. He himself sets the example, and rides every day.

In general (and it is requisite not to ignore the fact in France), the most incessant and minute care is taken in this country with all things, civil as well as military. The details of the organization, and execution approach perfection. But their care is bestowed more particularly on the army. The principal bequeathed by the Great Frederick to his successors is continually applied. "Prussia must be always on outpost duty." If a simile chosen from the racing stable be allowed, I would say that the Prussian nation is at the present day in complete "training." I do not propose to point out in detail the defects of our Staff Corps, under both the heads of its organization and education. My object is to point out the reasons which make the Prussian Staff so much superior to ours. Nevertheless, how is it possible not to regret, the positions occupied in France by so many officers, who pass whole years, those when men are in their prime, in Staff offices occupied exclusively with clerical labour, which may be done just as well by non-commissioned officers? What lost time, what wasted talents? And how can it be wondered at that our officers serve as objects of ridicule even to Austrian newspapers, as can be seen by reading the numbers of the "Comrade" published at Vienna. They are termed "rusted," their duties are deemed unworthy of an officer, and they laugh at their appearance before troops. As

for Prussian officers, they are the more astonished at the organization of our Staff, as they render full justice to our army in other respects.

But they are unable to understand how any one can be considered a Staff Officer, by simply passing a good examination on leaving school at 21 years of age. They do not admit that any man can be a good Staff Officer who cannot ride many miles at a gallop, and who does not speak at least one foreign language,* or who has never commanded a company, a regiment, or a battalion. They often express their astonishment at this. And, now, should we adopt for our Staff the Prussian organization? Certainly not. If it were thought of, the method of promotion amongst our officers, which is quite different, would entirely forbid it. But the same problem (here the formation of the best Staff) has often many solutions, all based on the first data. Let it be once granted that we acknowledge the necessity of improving our Staff. The first question to answer will be, is not the principle laid down in Prussia which requires that the Staff should be the élite of the army undoubtedly correct? This principal admitted the consequences as to how it should be applied, will follow without great difficulty.

I will terminate the report by stating that, in my opinion, it is very urgent to take some steps to elevate our Staff Corps from its state of inferiority. I beg again to say that this inferiority is too real, too apparent, to any one who takes the trouble to study the Prussian Staff, and it is without exaggeration, after much study and careful thought, that I express these opinions.

The composition of the Prussian Staff will, in the next war, constitute the most formidable element of superiority in favour of the Prussian Army. I have had the means, when in Bohemia and since, of knowing many facts, which from their personal character cannot find a place in the official account of the war of 1866. From these I consider it as an undoubted truth that the Prussian armies have owed a great part of their success to the Staff Officers. I do not exaggerate in saying that it was these officers alone who directed the campaign of 1866. How many examples could I not quote where the officers who composed either the Head-Quarter Staff or the Army Corps Staff have given the most complete proof of correct judgment, true warlike talents, and extreme zeal. Not to speak of General Moltke, where is the General-in-Chief, who would not deem himself most fortunate to have as Chief of the Staff either General Voigts-Rhetz or General Blumenthal, officers of the highest distinction, who discharged the functions of Chiefs of the Staff to the 1st and 2nd Armies. And what precious qualities, what information of all kinds amongst the Staff Officers under their orders, Colonels,

* *Vide* on this subject p. 65 of "the Instruction," attached to my report. The reasons why it is requisite that a Prussian Staff Officer should know French; for exactly the same reason as French Staff Officers should understand German.

Majors, Captains! I do not know one that any General would not be delighted to employ in war. What a guarantee, I would almost say, what absolute security, and coolness of conception, Staffs composed of officers so able, so well taught, and so devoted to their duties, must give to a General Commanding-in-Chief during war. My conviction on this point is so strong that I would once more express it, *Let us distrust the Prussian Staff.*

On Disarmament.

The Prussian Government has decided, from motives of economy, that on the 1st of next May 12,000 men of the army shall be sent home on furlough. This reduction is merely provisional.

It, however, induces me to say a few words on that curious question, "the disarmament of the Great Powers," a subject which is occasionally discussed, and with which the newspapers are now specially occupied. What a want of common sense there is in the articles with which these journals feed the public! What ignorance of the institutions of foreign countries! They do not even ask what is meant by the disarmament of a power, and they confound this word with the discharge of soldiers.

No precise definition of the word disarmament has ever been given.

First, as no two powers have the same military organization, it cannot mean the same for all powers. To consider one Power only, France for example, what is it which fairly constitutes a disarmament, and where does it begin? Is it discharging soldiers which is usually looked on as equivalent to a disarmament? But it is requisite to know what soldiers are discharged. Is it a portion of the army with the colours, or a portion of the reserve? Is the discharge provisional, or final without possible recall? All this is vague.

When a definition of the word disarmament, is sought which shall be applicable to every country, the following only can be found: a diminution in the number of men that a Power teaches, or sets apart for warlike purposes. A disarmament would be partial if a Power diminished its effective strength in a certain proportion; it would be total, if it did not train a single soldier, and limited itself, to keeping up a kind of police, for duty in the interior.

Now that which our newspaper writers do not dream of is, that a partial or complete disarmament may be conceived, that is to say, is possible in France, Austria, Italy, and England, in a word for all Powers; but it is absolutely impossible for one, Prussia. The word disarmament can apply to Prussia in no sense whatever. Why? On account of the principle of universal compulsory service, the fundamental principle of Prussian military institutions, and, it may be added,

of the social customs of the nation. It requires that all healthy citizens should spend three years in the active army, as in a school for war, and then serve four years in the reserve, and five years in the Landwehr. In other words, that all the healthy young men 20 years of age, that is to say, 93,000 men (the contingent of 1868 for the North German Confederation was 92,886 men) enter the army each year, and are taught the profession of arms for three years; this instruction having been received, they remain nine years at the disposal of the State. The North German Confederation has consequently 300,000 men from 20 to 23 years of age who are *being* taught the art of war, and more than 600,000 men from 23 to 32 years of age who *have been completely taught*, total 900,000 men. What, then, is the meaning of disarmament as applied to Prussia? Does any one propose that she should diminish the number of men with the colours? She would reply, I am unable to do so, because the fundamental principle of compulsory military service compels me to take 93,000 young men each year into my army, and to keep them there three years. Now the actual strength of my army, and its cadres, are only just sufficient to enable me to do this.

Does any one propose that Prussia should shorten the duration of military service? To that she might perhaps consent; but then the question must be asked—Service in which branch of the army is it proposed to shorten?

Is it service with the colours (three years), or in the reserve (four years), or in the Landwehr (five years)? It is quite evident that if Prussia does not reduce the total duration of service, 12 years (20 to 32 years of age), and merely reduces the number of years spent in the reserve or with the colours, the only result would be that the military education of her soldiers would not be quite so complete, but the total number would be unaltered, *viz.*, 900,000 men in the active army, reserve, and Landwehr. Would this alteration be a disarmament? Certainly not; it would be rather, so to speak, a reduction of the warlike force of the 900,000 men. To take an extreme case—If Prussia should adopt a service of one year in the ranks, two in the reserve, and nine in the Landwehr, she would have her soldiers badly trained, and a great mass of Landwehr soldiers, but she would still have 900,000 men, who would have been trained one year in the army and two in the reserve.

A diminution of the entire force of 900,000 men, that is to say, a disarmament in the proper acceptation of the word could not take place in Prussia unless she reduced the limits of age in the Landwehr, as for instance from 30 to 28 years.

But the comparison would be entirely deceptive, for if a serious war were to break out, there would be no difficulty in again obtaining the men of 29, 30, 31, and 32 years of age as easily as if they belonged to the Landwehr. It cannot too often be pointed out, that the corner stone of Prussian military

organization consists in the military training for a certain number of years (three) of all the healthy young men in the country who have completed 20 years of age. The number of years passed in the reserve, and in the Landwehr, is in comparison with this of minor importance.

It follows, from this fundamental principle, that all the healthy young men of the country, are either actually soldiers or old soldiers.

Thus the armed force of the North German Confederation, (active army, reserve, and Landwehr) taken as a whole, offers a phenomenon quite unique in Europe.

This may, perhaps, be simplified to the eye by the annexed diagram. The 12 straight lines are intended to show—1st, the men of 20 years; 2nd, those of 21 years; and so on. The first represent the active army, the four following the reserve, the five last the Landwehr. These lines, by their decreasing length, represent the loss of men by deaths each year, and the thickness of the lines represents the fitness for war of each contingent.

Thus the soldiers of the 3rd year, with those of the 1st and 2nd years of the reserve are in the best condition as regards age and military instruction.



It may be easily seen from the foregoing pages that the word disarmament can apply to Prussia in no exact sense, and that of all European Powers Prussia alone, on account of her institutions, is unable to disarm. If Prussia has to disarm, she must alter her institutions, and no person thinks of asking her to do so.*

* *Vide* Report, 28th February, 1870, entitled "Disarmament."—[Ed.]

FORCES OF THE SOUTHERN STATES, AND REPLIES TO THE
ARTILLERY COMMITTEE.

Report 8th May, 1868.

I. FORCES OF THE SOUTHERN STATES OF GERMANY.

The States of South Germany are bound by the treaties concluded in 1866, to put, in case of war, according to circumstances, their military forces at the disposal of the King of Prussia. I gave in December of last year, as the strength of these forces, figures which could only be taken as approximate, because the various Southern States were then reorganizing their armies. This reorganization is now complete, and the exact force at their disposal can be stated.

The States of South Germany are in order of importance—the Kingdom of Bavaria, the Kingdom of Wurtemberg, the Grand Duchy of Baden, the Grand Duchy of Hesse (situated south of the Main). Prussia has for more than a year exerted all her influence, to induce them to adopt her organization, the strength of her regiments, her arms, and even her uniform. Baden has been more than willing to accept everything, and her Government has gone so far as to receive a Prussian General Officer, as War Minister. At this moment officers and non-commissioned officers of Prussian Landwehr, directed by Colonel Blücher, are employed in the Grand Duchy, organizing the Landwehr, and teaching it its duties. Hesse is also modelled on Prussia, the same strength of battalions, the same arms, the same regulations, the same dress. Bavaria and Wurtemberg, the last in particular, have been less subservient, and have refused to adopt the Prussian uniform. Bavaria has also refused to adopt the Prussian rifle.

The following tables show the forces now at the disposal of these States. I repeat that the strength of battalions, squadrons, &c., both on a peace and war footing, are the same as in Prussia.

BAVARIA.

16 Regiments of Infantry, each 3 Battalions ..	} 58 Battalions.
10 Battalions of Rifles	}
10 Regiments of Cavalry, 5 Squadrons	} 50 Squadrons.
4 Regiments of Field Artillery, with 8 Batteries	} 32 Batteries.
each	}
20 Companies of Garrison Artillery	} 20 Companies.
1 Regiment of Pioneers, 10 Companies	} 10 ..

These forces, except a slight excess in the number of rifle battalions and squadrons of cavalry, are exactly equal to two Prussian Army Corps.

As for the Landwehr, they are now forming 30 battalions.

WURTEMBERG.

8 Regiments of Infantry, each 2 Battalions	..	..	} 19 Battalions.
3 Battalions of Rifles	..	..
4 Regiments of Cavalry of 4 Squadrons	..	..	16 Squadrons.
1 Regiment of Field Artillery, 9 Batteries	..	..	9 Batteries.
5 Companies of Garrison Artillery	..	..	5 Companies.
2 Companies of Pioneers	..	..	2 „

These troops are formed into an Army Corps, of which the strength is rather less, than that of a Prussian Army Corps. Ten battalions of Landwehr are now being organized.

BADEN.

6 Regiments of Infantry, 3 Battalions	..	..	18 Battalions.
3 Regiments of Cavalry, 5 Squadrons	..	..	15 Squadrons.
10 Field Batteries	..	..	10 Batteries.
5 Companies of Garrison Artillery	..	..	5 Companies.
2 Companies of Pioneers	..	..	2 „
Landwehr	..	..	12 Battalions.

HESSE.

4 Regiments of Infantry, 2 Battalions	..	..	} 10 Battalions.
2 Battalions of Rifles	..	..
2 Regiments of Cavalry, 5 Squadrons	..	..	10 Squadrons.
5 Field Batteries	..	..	5 Batteries.
1 Company of Pioneers	..	..	1 Company.
1 Division of Train	..	..	1 Division.
Landwehr	..	..	4 Battalions.

The total military force of South Germany is, therefore, as follows :—

105 Battalions.
81 Squadrons.
56 Batteries of Field Artillery, or 336 guns.
30 Companies of Garrison Artillery.
15 Companies of Pioneers.

This represents on a war footing about 128,000 men.

The following round numbers show pretty nearly the actual force of each State :—

Bavaria	70,800	} 128,000
Wurtemberg	..	..	..	23,000
Baden	..	..	..	22,000
Hesse	..	..	..	12,000

It will be observed that Wurtemberg and Hesse are the only States which have infantry regiments with two battalions. It is wished at Berlin that they should adopt regiments with three battalions, in conformity with the States of the North German Confederation. The Hessian Infantry will be shortly formed as follows :—

3 Regiments of Infantry, 3 Battalions	} 10 Battalions.
1 Battalion of Rifles	

As it is, the Hessian force forms, in accordance with a Convention, the 25th Division of the Army, of the North German Confederation; and they flatter themselves here with the hope that the day is not far off when this 25th Division, united to the Baden force, now termed the 26th Division, will form the *13th German Army Corps*.

II. REPLIES TO THE ARTILLERY COMMITTEE.

I now reply to the various questions addressed to me by the Artillery Committee, in a note which was attached to the Ministerial letter of the 11th March last.

1st, 2nd, and 3rd Questions.—Have any improvements in the needle-gun been proposed? What are they? What is the cost of the proposed alterations?

Reply.—I cannot give a better answer to these questions than by giving an account of my last interview with the King.

On the 25th April, after a parade at Potsdam, where I had the honour to accompany the King, His Majesty asked me if it was true that in France we were not quite satisfied with our rifle (pattern of 1866), and that the newspapers contained various articles on the subject, and even spoke of an order given to an American firm for 100,000 Remington rifles by the French Government. I replied to the King, that I was left in entire ignorance of everything connected with our new armament; but, having been present last year at the reviews at Chalons, I believed I was justified in stating that our rifle, notwithstanding certain defects, the greater number of which could be remedied, was looked on as an excellent weapon. I added that it was quite possible that more extended trials had revealed certain defects hitherto unknown.

“I look on your rifle,” said the King, “as a capital arm, but “in my opinion there is much room for improvement in the “cartridge.”

I then gave the King some details, and I asked his permission to speak to him again on this subject, after having obtained some information on a subject that seemed to interest His Majesty.

The 3rd May, the King having condescended to place me by his side at breakfast, I took the opportunity of returning to this subject, and, thanks to the information I had received, I spoke with great frankness, and as nearly as possible in these words:—

“Certain people have sought to depreciate the Chassepôt rifle; newspaper articles, written with interested motives, “have spoken badly of it. But the rifle works perfectly. Its “accuracy is very great, and it has an effective range of 1,000 “yards. The manufacture of the cartridge requires un- “doubtedly care and time, and it must fit accurately. Some- “times the india-rubber disc is cut by the needle in the needle- “case. In cold weather the breech is occasionally not quite closed, “but after a round or two, the india-rubber softens by the

“heat. These defects, however, rarely show themselves, and viewed as a whole the French rifle is superior to the Prussian in the proportion of 10 to 7. The latter, on account of the imperfect closing of the breech, cannot be fired with a heavy charge. For a military rifle at the present day, there are two indispensable conditions:—1st, To load quickly and without trouble, which gives the soldier great confidence in action; 2nd, that the bullet should have a high velocity, or in other words a flat trajectory.”

“That is very true,” replied the King, “and in those respects our rifle is far from being perfect. We seek some alteration which will give us a higher initial velocity, and, if possible, a more rapid means of loading. Several have been proposed, but as yet I have been unable to decide on any. It is no light matter to alter a million rifles, especially if the proposed alteration does not offer advantages commensurate with the cost.”

This statement of the King, who was certainly as open with me, as I had been with him, leaves no doubt as to the state of the question. In other words, no alteration of the Prussian rifle has been as yet determined on.

The efforts made to arrive at a method of improving the needle-gun date from the adoption by France of the rifle of 1866; and they are unceasingly prosecuted. So much do they occupy themselves with the superiority of the armament of our infantry. It would not be interesting to state the various alterations proposed, since none of them have been adopted. They tend, as the King said, to afford above all a greater range, and a flatter trajectory.

They desire also to lighten the weapon and make the loading more rapid. With reference to this last condition, I would here give some details, which show how justly they appreciate in Prussia the peculiar advantages a breech-loading weapon gives.

In August 1866, having, when in Bohemia, sought to determine the effects that might justly be attributed to the needle-gun, I arrived at the conclusion that rapidity of fire had given the Prussians comparatively but a slight advantage. I had on the contrary clearly seen that the true advantage, lay in the coolness and self-possession, that men, armed with a rifle which can be rapidly loaded, preserve in action.

“This coolness and self-possession,” I then wrote, “was so great that the Prussian infantry, composed of young men who had never made war, fired with the tranquillity and precision of veteran troops.” I was speaking the other day on this subject with General Kessel, who, as Colonel, commanded during the campaign the regiment of Foot Guards. He is one of those well-informed, thoughtful, and painstaking officers, so many of whom are to be found in the Prussian Army. His regiment covered itself with glory. He agreed with me that the advantage that the Prussian infantry possessed in the war

of 1866 was not due exactly to rapidity of fire, but rather to the confidence the men, had in their weapons. "Our soldiers," he said, to me, "had rarely recourse to a rapid fire, and the proof of this is, the small average number of rounds expended per man during the campaign; but for many years we have lost no opportunity of convincing the men that they carried a weapon superior to that of all other European armies; and the pains we took with rifle practice only strengthened this conviction. This confidence was increased, and strengthened after the first actions, when they found the security afforded by an arm which loads rapidly. People speak," added the General, "continually of *rapid fire*, the expression is not correct, and gives a false notion, they should rather say *rapid loading*. For the true advantage of breech-loading arms, is they are easier to load, and can be loaded more rapidly than others."

General Kessel gave me the following curious details on this subject.

The 29th June, 1866, at the attack on Königinhof, his rifle battalion had a sharp engagement with the enemy; after the action, which took place in fields covered with high corn, Colonel Kessel went over the ground; what was his astonishment to find five or six Austrian bodies for every Prussian. The Austrian killed had almost all been hit in the head, the wounds being frightful. However, his men, far from firing fast, had hardly fired as many rounds as the enemy. Colonel Kessel received from the Austrian officers who were made prisoners an explanation which fully accounted for this, the same evening. "Our soldiers are demoralized," said they to him, "not by the rapidity of your fire, for we could find some means perhaps to counterbalance that, but because you are always ready to fire. This morning your men, like ours, were concealed in the corn; but in that position yours could, without being seen, load their rifles easily and rapidly; ours, on the other hand, were compelled to stand up and show themselves when they loaded, and you then took the opportunity to fire on them. Thus we had the greatest difficulty in getting our men to stand up at all; and such was their terror, when they did stand up to load, that their hands trembled and they could hardly put the cartridge into the barrel. Our men feel the advantage that the quick and easy loading of the needle-gun gives you; it is this which demoralizes them. In action they feel themselves disarmed the greater part of the time, whereas you, are always ready to fire."

The above facts show clearly the kind of influence to be justly attributed to the needle-gun in the action of 1866.

Easy and rapid loading forms, at the present day the essential condition of warlike arms, and this is as true of artillery as it is of small-arms.

4th Question.—Is it true that Prussia intends to give explosive bullets as a portion of the infantry soldier's

equipment, and that she purposes to use them in war to fire on troops?

Reply.—There is no idea of using explosive bullets to fire on troops; they only use them to fire on ammunition wagons, with the object of blowing them up. The best proof of this is that they do not drill the soldiers in firing such bullets. I am assured that this year the drill will be the same as in previous years, five cartridges with explosive bullets are given per battalion per officer of all ranks, but the non-commissioned officers and men do not receive any. At the autumn drills each officer fires his five bullets, at a distance of 200 yards, at ammunition wagons filled with paper coated with inflammable composition.

I would add that it may be asked in vain, what advantage would Prussia obtain by firing explosive bullets at troops?

This nation, endowed with so many sound and most estimable qualities, is wanting in all generous or delicate feelings, and it would not hesitate for a moment to use anything, no matter what, no matter how it might be opposed to public opinion; but at the same time it is not so foolish as to do so, if it were not to obtain some compensating advantage. An officer of rank said recently to me on this subject:—"In the Crimean War you confined yourselves to bombarding Odessa very feebly. You should have reduced it to ashes, for it was at Odessa that the Russian divisions, were formed which all but flung you into the sea the day of the battle of Inkerman."

5th Question.—What is the "shell rifle" that the newspapers have been speaking of for some time?

Reply.—I have described in one of my reports of the month of December last this rifle, improperly termed a "shell rifle." It is only a wall piece, called here Wallbüchse. The Prussians used this weapon during the Schleswig war in 1864. The bullet is made to burst. The weapon is mounted on a very light carriage, which allows it to be moved easily from place to place. It is fired when the carriage is placed on a support such as a tree or a wall, the man firing from the shoulder by means of a hollow cut in the butt. It was proposed last year to improve this weapon, and issue some to each company of infantry.

6th Question.—Have all the Cavalry breech-loading arms; what method is adopted?

Reply.—All the Cavalry of the Federal Army are supplied with breech-loading carbines on the same plan as the infantry rifles. In the war of 1866, the Prussian cavalry was supplied with these carbines; and they have since been issued to the cavalry of the new Army Corps. The pistol is not a breech-loader, but a pattern of a needle-pistol has been proposed; they have also recently proposed to adopt a revolver in place of the pistol, but nothing is as yet decided.

THE QUANTITY OF AMMUNITION REQUIRED BY AN ARMY, AND
POSTAL ARRANGEMENTS DURING THE WAR OF 1866.

Report of the 28th May, 1868.

I. IS IT REQUISITE TO ALTER THE QUANTITY OF AMMUNITION
CARRIED BY AN ARMY.

The great alterations which the arms used by all the Powers of Europe have undergone, cannot but exercise a very marked influence over tactics, and the question at once arises, is it requisite to alter the quantity of ammunition an army carries with it in the field?

At the first glance one is inclined to answer this question in the affirmative. For if we grant that the quantity of ammunition hitherto carried by an army was sufficient, it would appear that it can no longer be so, if, in consequence of the improvement in weapons, tactics undergo any very great change.

This general problem appears to me to be of the greatest importance, and should be solved before France is again involved in war. In Prussia, where everything is studied so carefully, this question has been discussed for some time. I gather from a perusal of the numerous military tracts published in Germany, and from conversation with the most intelligent officers, that there are two distinct opinions on the subject, or rather an inclination in two opposite directions, one to diminish, the other to increase, the quantity of ammunition.

The former say, "The improvements in small-arms, the care bestowed on rifle drill, the great attention given to officers, non-commissioned officers, and soldiers, must have the effect of reducing the quantity of ammunition consumed in battles. We are no longer in 1812, when at the Moskowa the French army fired 1,400,000 rounds. In 1866, the Prussian infantry did not fire on an average seven rounds per man, and it is probable that this quantity would not have been exceeded if the Austrians had been armed with breech-loaders; it is desirable, therefore, to make armies more mobile by reducing the amount of *matériel* they carry."

Those who hold the opposite opinion say that it is quite impossible to foretell what, so far as the expenditure of ammunition will be, the result of the employment of breech-loading arms, in a war between two armies, both provided with those weapons. They think that as there is a doubt about the matter, prudence requires that the quantity of ammunition, should not be reduced, and they incline rather to increase it.

The views of the latter party appear to have prevailed, for the following alterations, have been made in the quantity of ammunition carried by the Army Corps of the North German Confederation.

During the war of 1866, each Prussian infantry soldier had 60 rounds (20 in each of the two pouches he carried, and 20 in his knapsack), in addition to 36 paper cases, and 30 sabots made of pasteboard in the knapsack.*

Since that date, moved thereto by the fact that the French soldier carries more than 60 rounds, it has been directed for the future, that the German soldier should carry 20 more rounds, that is to say, 80 in all; but he no longer carries the cases or pasteboard sabots.

Each battalion has, as is known, an ammunition wagon, that follows it, on the line of march, and which should remain close to it in action. In 1866, this wagon contained, according to the pattern used, 20,000 or 17,000 rounds, or about 20 rounds per man; experience has shown that this wagon is too heavy, and it will for the future be lightened by removing from it $3\frac{1}{2}$ rounds per man. The number of rounds carried by the reserve artillery, has also undergone an alteration, but, before pointing it out, I beg to refer to the description given in my Report of the 29th March last, on the composition of this reserve.

The difference between the composition of a French and Prussian battery on a war footing is well known. The first marches with its own reserve, while the second carries with it only 16 carriages (6 guns, 6 ammunition wagons, 2 store wagons, 1 baggage wagon, and 1 forge), and leaves the other wagons with the reserve artillery of the Army Corps. The whole of these wagons, for all the batteries of the Army Corps are formed into nine ammunition columns, including the ammunition wagons of the artillery, the small-arm ammunition wagons, the spare carriages, the battery wagons, and the forge wagons, making altogether 228 carriages or 25 to 26 carriages per column. The reserve artillery of a Prussian Army Corps is thus composed of these nine ammunition columns, added to six reserve batteries (viz., four field and two horse batteries).

Until last year each of these nine columns was composed partly of gun ammunition wagons, and partly of small-arm ammunition wagons, but it is now thought preferable to divide these two kinds of ammunition, and in place of nine mixed columns, they now have five columns of gun ammunition and four columns of small-arm ammunition.† The small-arm ammunition columns will for the future carry a diminished number of rounds ($11\frac{1}{2}$ rounds per man less), or in other words they will carry $71\frac{1}{2}$ rounds per man in place of 83. Let us now compare the number of rounds carried at present, and in 1866.

* These cases and sabots are given to the soldier, who, if requisite, can make cartridges himself. The Prussian cartridges, which are very imperfect, offer, on account of their simplicity, one advantage, the soldier can himself make them.

† It should be remarked that in the three new Prussian Corps (9th, 10th, 11th), this proportion is reversed (their being 4 gun ammunition columns and 5 small-arm ammunition columns). The reason of this is, these corps are supplied with carriages taken from the enemy.

In 1866, for each Infantry soldier, there were :—

	Rounds.
Carried by the man	60
In the Battalion Ammunition Wagon ..	20
With the Ammunition Column	83
Total	<u>163</u>

At present, for each Infantry soldier, there is :—

	Rounds.
Carried by the Man	80
In the Battalion Ammunition Wagon ..	16½
With the Ammunition Column	71½
Total	<u>168</u>

The general character of these changes are, an increase of the number of rounds carried by the soldier, a diminution of the number of rounds carried by the battalion ammunition wagon, and the ammunition column, and *an augmentation of the total number of rounds per man by 5.*

As for the Cavalry ammunition, the number of rounds carried by each man has not been altered, but the number carried in the wagons, of the ammunition columns have been much reduced. This decrease amounts to 14 rounds per man. Consequently, at present, these ammunition columns convey :—

	Rounds.
For each man of the Light Cavalry	21
For each man of the Heavy Cavalry	60

This decrease is a very wise measure, and we might copy it with advantage.

I come now to the changes in the quantity of gun ammunition. The number of rounds carried by the battery is unaltered, being :—

156 Rounds per gun in 4-pr. Batteries.
120 Rounds per gun in 6-pr. Batteries.

But the change made in the composition, of the ammunition columns just described, has led to an increase in the number of rounds, both for the 4 and 6-pounder guns.

4-pounders.—The ammunition column includes 45 wagons, carrying 4-pr. ammunition, and 12 spare 4-pr. carriages. These carriages carry now for the 9 4-pr. batteries of the Army Corps, 112 rounds per gun.

6-pounders.—There are in the ammunition columns 40 ammunition wagons, and 6 to 8 spare 6-pr. carriages for the 6 6-pr. batteries of the Corps d'Armée. This supply gives 109 rounds per gun. If we compare the number of rounds carried now, and in 1866, we find the following increase :—

	Rounds.
An increase for each 4-pr. of	42
An increase for each 6-pr. of	11

If to this increased number we add the number carried by the battery itself, which has not been altered, we get—

	Rounds.
For each 4-pr. (instead of 226 Rounds) ..	268
For each 6-pr. (instead of 218 Rounds) ..	229

When a Prussian Army has, in addition, a general artillery reserve, it carries 100 rounds per gun.

To recapitulate, the following alterations have been made:—

The number of rounds, for the infantry and artillery has been increased. The number of rounds, for the cavalry has been reduced.

II.—POSTAL SERVICE OF THE PRUSSIAN ARMY DURING THE WAR OF 1866.

Having considered, that it would be interesting to know the post office organization of the Prussian Army during the war of 1866. The following report, has been compiled from the information, furnished to me by the functionaries, who were employed on this duty.

To each Army Corps there was attached a central administration composed of (I use the German names): 1 postmaster, 5 secretaries, 2 sub-employed, 12 postilions, and 10 train soldiers.

This administration has under its orders, 3 branch offices, one with each division of infantry, the third with the reserve artillery, each composed of 2 employés, 2 sub-employed, 3 postilions, and 3 train soldiers.

At the head-quarters of each army (1st, Prince Frederick Charles, and the 2nd, Crown Prince) a staff of 2 employés, 2 sub-employed, 3 postilions, and 3 train soldiers, were employed.

At the Royal Head-Quarters a special staff carried out the duties, composed of 1 chief postmaster, 3 employés, 2 sub-employed, 12 postilions, and 9 train soldiers. Special post offices were also established with each cavalry corps of the 1st army, and with each detached corps in Saxony and Silesia.

As it was known beforehand, that the number of articles (letters, money, &c.) sent from the interior of Prussia to the army would be very great, the general post office in Berlin formed two distinct lines of post offices. One was established along the Bohemian frontier, and was intended to receive military documents, private letters, and newspapers, addressed to officers and employés ranking as such.

The second line of post offices was placed a little behind the frontier. To these all letters for non-commissioned officers, and soldiers, and all letters containing money were sent. The post offices in the interior of the monarchy, after sorting the letters, sent them to one, or other, of these two lines, from which they were forwarded to the army.

As regarded the actual postal service of the army, a method which had given much satisfaction in the Schleswig-Holstein war was adopted.

This consisted in forming numerous branch post offices, intended for the correspondence of the troops detached from the mass of the army, and especially at the hospitals formed on the lines of communication. The despatch of the letters was not altogether successful, especially during the first part of the campaign, and the frequent delays gave rise to many complaints. These delays might, perhaps have been avoided by sending the letters and packets direct to the hospitals and detachments. But they were sent to the army post offices, which sent them back to the branch offices. This was however necessary, in order that the secret of the military operations, might be preserved, which would have been divulged if the position of the troops, had been known to too many people. In the opposite direction, that is to say, from the theatre of war towards Prussia, the post office transactions were very great. At the single post office of Görlitz, 20 employés were at work day and night.

It was only by the re-establishment of the railways, particularly that from Dresden to Brunn, *via* Prague and Pardubitz, that it became possible to suppress a certain number of the post offices, and to use travelling post offices on the railways, in which a portion of the labour of sorting letters was performed.

During the first period of the operations, the post office authorities had to contend against great obstacles, to maintain a regular postal communication between Prussia and the army, for Bohemia had no kind of transport, the country being hilly, and the roads bad.

A great number of horses, and post office carts, had to be brought from Prussia, and were established in relays along the great imperial road leading from Görlitz, *via* Wilfersdorf on Vienna. This was the chief line of postal communication. Other lines were formed from Landshut to Horitz, *via* Trautenau, from Tornau to Prague, from Kolin to Iglau, and from Brunn to Znaim. The rapid advance of the Prussian armies added to the difficulties. It happened more than once that the employés in the moving post offices, only reached the places where the branch post offices were, after the latter had left for another place, or that the troops omitted to take the letters addressed to them. This inconvenience was to a certain extent met by organizing a service of postilions, whose duty it was to overtake the troops, and bring them, their letters. The following facts will give an idea of the amount of labour thrown on the post office authorities. The office at Görlitz which forwarded the letters and despatches addressed to the King, had for this duty one delivery daily. Private letters, letters with money, and newspapers arrived there in such quantities that to send them regularly to the army, required two or three carriages daily. After the battle of Königgrätz, the post office had to pay in one day to the 9th Division of the 5th Corps d'Armée 4,800*l.*, sent to the men by their families in Prussia.

In principle, the post office undertook to send forward only